

IN THE CLAIMS:

1. (Currently Amended) A system for producing a propagated signal over a network, comprising:

a computer configured to transmit and receive said propagated signal over said network;
said computer having a means for encoding or detecting a single element of data within a time period of said propagated signal, wherein said time period is divided into a group of time slots; and

a plurality of multiple pulses that exceeds two but is less than about seven are distributed in a predetermined manner among each of said group of time slots by pulse group keying to encode said single element of data.

2. (Previously Presented) The propagated signal as recited in Claim 1 wherein said single element of data is ascertainable by mapping.

3. (Original) The propagated signal as recited in Claim 1 wherein said time slots in said group are adjacent.

4. (Original) The propagated signal as recited in Claim 1 wherein said time slots in said group are not adjacent.

5. (Original) The propagated signal as recited in Claim 1 wherein said time slots have differing characteristics.

6. (Previously Presented) The propagated signal as recited in Claim 1 wherein said time period is divided into a group of sixteen time slots and a number of data states corresponding to more than fifteen bits of data can be encoded within said group.

7. (Previously Presented) The propagated signal as recited in Claim 1 wherein said single element of data is selected from the group consisting of:

- a header;
- an error detection message;
- a synchronization element; and
- a data message.

8. (Original) The propagated signal as recited in Claim 1 further comprising a plurality of said time periods.

9. (Previously Presented) The propagated signal as recited in Claim 8 wherein said time periods have differing numbers of multiple pulses.

10. (Original) The propagated signal as recited in Claim 8 wherein said number of

time slots vary in said time periods.

11. (Currently Amended) A method of propagating a signal over a network, comprising:

utilizing a computer having a means for producing a propagated signal with a single element of data formed within a time period of said signal, wherein said time period is divided into a group of time slots; and

a plurality of multiple pulses that exceeds two but is less than about seven are distributed in a predetermined manner among each of said time slots by pulse group keying to encode said single element of data.

12. (Original) The method as recited in Claim 11 wherein said data is ascertainable by mapping.

13. (Original) The method as recited in Claim 11 wherein said time slots in said group are adjacent.

14. (Original) The method as recited in Claim 11 wherein said time slots in said group are not adjacent.

15. (Original) The method as recited in Claim 11 wherein said time slots have

differing characteristics.

16. (Previously Presented) The method as recited in Claim 11 wherein said time period is divided into a group of sixteen time slots and a number of data states corresponding to more than fifteen bits of data can be encoded.

17. (Previously Presented) The method as recited in Claim 11 wherein said single element of data is selected from the group consisting of

- a header;
- an error detection message;
- a synchronization element; and
- a data message.

18. (Original) The method as recited in Claim 11 further comprising designating a plurality of said time periods.

19. (Original) The method as recited in Claim 18 wherein said groups have differing numbers of multiple pulses.

20. (Original) The method as recited in Claim 18 wherein said number of time slots vary in said time periods.